

Listing and Amendments to the Claims

This listing of claims will replace the claims that were amended according to Art. 34 PCT in the PCT Application:

1. (currently amended) A projection display device comprising:
 - means of generating (2, 4) an image;
 - means (6) of projecting the image onto a screen (10; 12);
 - the screen comprising a Fresnel lens (16),said Fresnel lens including at least one first area (Z1, Z3) comprising first prisms (28, 40; 41), each first prism having a first side (30, 42) and a second side (32, 44) which forms with a main axis (AA') an angle greater than that formed by the first side and the main axis (AA'),
the second side (32, 44) of the first prism being designed to collimate, in line with the main axis (AA'), an incident ray (R1, R3) from said projection means, said Fresnel lens having symmetry of revolution about said main axis,
wherein ~~characterized in that~~ said Fresnel lens includes one second area (Z2, Z4) comprising second prisms (34, 46), each second prism having a first side (34, 48) and a second side (38, 50) which forms with a main axis (AA') an angle greater than that formed by the first side (34, 48) and the main axis (AA'),
the second side of the second prism being designed to transmit, in a first direction (R2', R4') different from the main axis (AA'), an incident ray (R2, R4) from said projection means.
2. (currently amended) The device as claimed in claim 1 wherein ~~characterized in that~~ the first area (Z1, Z3) is adjacent to the second area (Z2).
3. (currently amended) The device as claimed in ~~either of~~ claims 1 and 2 wherein ~~characterized in that~~ the first direction (R2', R4') is divergent from the main axis (AA').

4. (currently amended) The device as claimed in ~~any one of~~ claims 1 to 3, wherein ~~characterized in that~~ the first direction (~~R2', R4'~~) and the main axis (~~AA'~~) form between them an angle greater than 1°.
5. (currently amended) The device as claimed in claim 4, wherein ~~characterized in that~~ the first direction (~~R2', R4'~~) and the main axis (~~AA'~~) form between them an angle greater than 2°.
6. (currently amended) The device as claimed in ~~one of~~ claims 1 to 5, wherein ~~characterized in that~~ the first direction (~~R2', R4'~~) and the main axis (~~AA'~~) form between them an angle less than 10°.
7. (currently amended) The device as claimed in claim 6, wherein ~~characterized in that~~ the first direction (~~R2', R4'~~) and the main axis (~~AA'~~) form between them an angle less than 5°.
8. (currently amended) The device as claimed in ~~one of~~ claims 1 to 7, wherein ~~characterized in that~~, in at least one of said first and second areas, the first (~~28, 40~~) and second (~~34~~) prisms work in a reflective mode, the first side of each of the first and second prisms (~~30, 36~~) refracting an incident ray from said projection means to the second side of the corresponding prism which reflects the refracted ray to the output of said Fresnel lens.
9. (currently amended) The device as claimed in ~~one of~~ claims 1 to 8, wherein ~~characterized in that~~, in at least one of said first and second areas, the first (~~41~~) and second (~~46~~) prisms work in a refractive mode, the second side of each of the first and second prisms (44, 50) refracting an incident ray from said projection means, to the output of said Fresnel lens.
10. (currently amended) The device as claimed in ~~one of~~ claims 1 to 9, wherein ~~characterized in that~~, in at least one of said first areas, the first prisms work in a refractive or reflective mode different from the mode in which the second prisms in at least one of said second areas work.

11. (currently amended) The device as claimed in ~~any one of claims 8 to 10~~,
wherein characterized in that it comprises at least one third area comprising
third prisms, each third prism having a first side and a second side which
forms with a main axis (AA') an angle greater than that formed by the first side
and the main axis (AA'), and being designed to transmit an incident ray from
said projection means in line with said main axis, the third prisms working in
a reflective or transmissive mode different from the working mode of the first
prisms.
12. (currently amended) The device as claimed in ~~any one of claims 8 to 11~~,
wherein characterized in that it comprises at least one fourth area comprising
fourth prisms, each fourth prism having a first side and a second side which
forms with a main axis (AA') an angle greater than that formed by the first side
and the main axis (AA'), and being designed to transmit an incident ray from
said projection means in a direction that is different from the main axis, the
fourth prisms working in a reflective or transmissive mode different from the
working mode of the second prisms.
13. (currently amended) The device as claimed in ~~any one of claims 1 to 12~~,
wherein characterized in that the Fresnel screen comprises diffusion means.
14. (currently amended) A Fresnel lens for a projection display device with light
source ~~as claimed in any one of claims 1 to 13~~, the projection display device
comprising:
- means of generating an image;
 - means of projecting the image onto a screen;
 - the screen comprising the Fresnel lens,
- wherein characterized in that it includes at least one first area (Z1, Z3)
comprising first prisms (28, 40; 41), each first prism having a first side (30,
42) and a second side (32, 44) which forms with a main axis (AA') an angle
greater than that formed by the first side and the main axis (AA'),
the second side (32, 44) of the first prism being designed to collimate, in line
with the main axis (AA'), an incident ray (R1, R3) from said projection means,

said lens having symmetry of revolution about said main axis,
and in that said Fresnel lens includes one second area (~~Z2, Z4~~) comprising
second prisms (~~34, 46~~), each second prism having a first side (~~34, 48~~) and a
second side (~~38, 50~~) which forms with a main axis (~~AA'~~) an angle greater than
that formed by the first side (~~34, 48~~) and the main axis (~~AA'~~),
the second side of the second prism being designed to transmit, in a first
direction (~~R2', R4'~~) different from the main axis (~~AA'~~), an incident ray (~~R2,~~
~~R4~~) from said projection means.